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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,890	04/20/2001	Kai Eck	DE 000066	1656

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EXAMINER

EDWARDS, PATRICK L

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/838,890

Applicant(s)

ECK ET AL.

Examiner

Ryan J. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2004 and 20 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The response received on April 30, 2004 has been placed in the file and was considered by the examiner. An action on the merits follows.

Response to Arguments

2. Applicant's arguments filed April 30, 2004 have been fully considered. A response to these arguments is provided below.

Drawing Objections

Summary of Argument: The applicant argues that the replacement drawing sheets submitted with the amendment overcome the objection to the drawings (see applicant's remarks: page 6, paragraph 2).

Examiner's Response: The examiner agrees. The objection to the drawings has been withdrawn.

Specification Objections

Summary of Argument: The applicant argues that headings are not required in accordance with MPEP §608.01(a). Therefore, the objection to the specification should be withdrawn (see applicant's remarks: page 6, paragraph 3).

Examiner's Response: MPEP §608.01(a) states "The following order of arrangement of specification elements is preferable in framing the nonprovisional specification and, except for drawings, each of the lettered items should appear in upper case, with underlining or bold type, as section headings." A list of appropriate headings is as follows:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.

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(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(d) BRIEF SUMMARY OF THE INVENTION.

(e) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(f) DETAILED DESCRIPTION OF THE INVENTION.

(g) CLAIM OR CLAIMS (commencing on a separate sheet).

(h) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

While the MPEP does not require such headings it strongly encourages the use of them.

Therefore, the examiner requests that the applicant amend the specification to include such headings.

37 CFR 1.75 Claim Objections

Summary of Argument: The applicant argues that claims 1, 7, and 10 have been amended in a manner to overcome the claim objection under 37 CFR 1.75(a) (see applicant's remarks: page 6, paragraph 4). The applicant further argues that claim 8 has been amended so that it is no longer a multiple dependent claim, thereby overcoming the 37 CFR 1.75(c) claim objection (see applicant's remarks: page 6, paragraph 5).

Examiner's Response: The examiner agrees. The objections mentioned above have been withdrawn.

35 U.S.C. 101 Rejection

Summary of Argument: The applicant argues that claim 10 has been amended to overcome the rejection under 35 U.S.C. 101.

Examiner's Response: The examiner agrees. The rejection of claim 10 under 35 U.S.C. 101 has been withdrawn.

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Prior Art Rejections

35 U.S.C. 102(b) rejections

Summary of Argument: The applicant argues that Schreiner (U.S. Patent No. 5,617,461 A) does not disclose or suggest at least the newly added limitations to claims 1 and 10. The applicant further argues that, in contrast to the applicant's claimed invention, Schreiner discloses that the correction method 15 takes as inputs a defect image and the original image; Applicant's correction method takes as the sole input a defect table identifying defective pixels in the image data, and corrects the defective pixels by means of a correction table (see applicant's remarks: page 7, paragraph 4, page 8, paragraph 1). The applicant goes on to argue that

Examiner's Response: The examiner disagrees. The applicant's claims use an open-ended claim construction. Therefore, Schreiner, which discloses a correction method 15 that takes as inputs a defect image (i.e. a defect table) and the original image, anticipates the claimed correction method, which has a sole input of a defect table. It is inconsequential that Schreiner also discloses that the original image is also an input to the correction method 15 due to the fact that the applicant uses open-ended claim construction. Regarding the argument that Schreiner fails to disclose the newly added limitations, the examiner disagrees as detailed in the rejection below.

Claim Objections

3. The following quotation of 37 CFR § 1.75(a) is the basis of objection:

(a) The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

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4. Claims 9 is objected to under 37 CFR § 1.75(a) as failing to particularly point out and distinctly claim the subject matter which the applicant regards as his invention or discovery.

Regarding claim 9, the claim recites the limitation "the adaptation of the processing parameters" in line 3. There is insufficient antecedent basis for this limitation in the claim. Furthermore, this claim is grammatically awkward and difficult to understand. The examiner requests a complete revision of this claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Schreiner (U.S. Patent No. 5,617,461 A).

As applied to claim 1, Schreiner discloses an X-ray examination apparatus which includes an X-ray source (see Fig. 1: Reference numeral 1 referring to an X-ray tube that produces an X-ray beam.), an X-ray detector including sensor elements for converting X-ray in electrical charges (see Fig. 1: Reference numeral 5 referring to an X-ray image converter) and a processing unit for the correction of image data and a defect detection unit for the detection of image defects (see Fig. 1: Reference numeral 6 referring to a digital imaging system. This system contains both a processing unit and a defect detection unit.) that can be detected on the basis of image parameters that can be extracted from image data arising during clinical examinations and is suitable to adapt, in dependence on the detected image defects, the processing parameters used

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in the processing unit (see column 3, lines 49-56: The reference describes that a defect image is produced that identifies the defective image points that need to be corrected by the processing unit. These defective image points are the processing parameters.), characterized in that for the detection of image defects caused by defective sensor elements the defect detection unit includes a filter unit for filtering the image data (see column 4, lines 17-20: The reference describes that images are filtered by a median filter.), and a unit for averaging the filtered image data (see column 4, lines 30-36: The reference describes that a histogram (i.e. an average) is determined for each filter value.), and a comparison unit for comparing the filtered and averaged image data with a threshold value (see column 4, lines 36-38: The reference describes that the defective image points are determined by determining which values of the histogram (i.e. average image data) lie outside a predetermined region (i.e. a threshold).) in order to form a defect table identifying defective pixels in the image data (see Fig. 3 and column 4, lines 36-41: The reference describes that a defect image (i.e. table) is formed. This defect image identified defective pixels in the image data.), and a processing unit (2) for correcting the defective pixels identified in the defect table by means of a correction table (20) to obtain corrected pixel values and applying the corrected pixel values to the image data from the X-ray detector (13) (see Fig. 2 and column 3, lines 54-56: The reference describes a correction 15 (i.e. processing unit) that corrects the defective pixels in the defect image (i.e. defect table) by means of a linear interpolation of adjacent image points (i.e. correction table) to obtain corrected pixel values and applying these pixel values to the original image data 16.).

As applied to claim 2, Schreiner discloses that the defect detection unit is arranged to adapt status parameters of the X-ray examination apparatus (see column 3, lines 49-51: The

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reference describes that the defect determination procedure determines the defective image points (i.e. adapts status parameters) in the X-ray detector (i.e. examination apparatus).).

As applied to claim 3, Schreiner discloses that continuous detection takes place (see column 3, lines 57-64: The reference describes that a "bright image" is a series of images with uniform exposure (i.e. continuous detection).).

As applied to claim 4, Schreiner discloses that the filter unit includes a ranking filter for filtering the image data, an inverter for inverting image data, and a summing unit for summing the filtered and inverted image data, there also being provided a unit for forming the absolute values of the summed image data (see column 4, lines 16-29: This claim describes an unsharp masking of the image data. This type of unsharp mask is described in the reference. The reference describes the use of a median filter (i.e. a ranking filter) to filter the image data. This filtered image data is subtracted from the original image data. This is equivalent to inverting the image data and summing the filtered and inverted image data. An absolute value of subtracted image data is also obtained.).

As applied to claim 5, Schreiner discloses that that the defect detection unit is arranged to apply a corrected defect table to the processing unit in the case of detection of defective sensor elements (see column 3, lines 49-54: The reference describes that the defect image (i.e. table) produced by the defect determination procedure is used to correct the original X-ray image if defective sensor elements are detected.).

As applied to claim 6, Schreiner discloses that the threshold value is predetermined (see column 4, lines 33-36: The reference describes that the core of the histogram (i.e. threshold) is determined. Therefore, this value is predetermined.).

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As applied to claim 7, Schreiner discloses that the ranking filters have variable kernels (see column 5, lines 6-18: The reference describes that the median filter (i.e. ranking filter) can have a variable kernel.).

As applied to claim 8, which merely calls for the method performed by the apparatus of claim 1, Schreiner discloses such a method since the reference discloses the apparatus for performing the method.

As applied to claim 9, Schreiner discloses that the adaptation of the processing parameters is performed in stages, the adaptation being performed during operation in the first stage, whereas adaptation takes place in a standby mode of the X-ray examination apparatus in a second stage, and adaptation takes place by intervention by a user in a third stage (see Fig. 3: As can be seen in Fig. 3, the adaptation is performed in stages.).

As applied to claim 10, which merely calls for a computer program for performing the functions of the apparatus described in claim 1, Schreiner discloses such a computer program since all of the processing performed in Schreiner is performed by the digital imaging system 6 (i.e. a computer).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

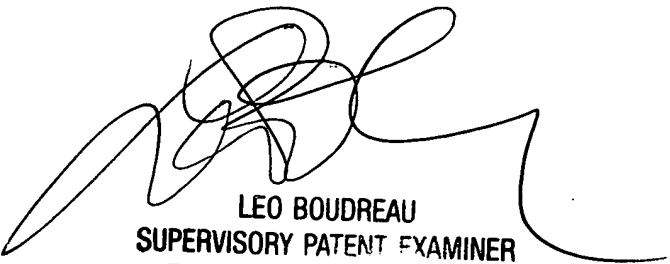
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan J. Miller whose telephone number is (703) 306-4142. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H. Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ryan J. Miller

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Examiner
Art Unit 2621


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